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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,011	02/25/2002	Edouard Ritz	PF010024	4305

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JOSEPH S. TRIPOLI
THOMSON MULTIMEDIA LICENSING INC.
2 INDEPENDENCE WAY
P.O. BOX 5312
PRINCETON, NJ 08543-5312

EXAMINER

NATNAEL, PAULO S M

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,011

Applicant(s)

RITZ ET AL.

Examiner

Paulos M. Natnael

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims **4 and 6-11** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 4 and 6, the newly added limitation that random access memory is used "for video decompression" is new matter which video compression was not described in the original specification **at all**, and as such, applicant is required to cancel or remove the new matter from the claim. If applicant contends that this is not new matter, specific location, i.e. page #, line #, in the original specification should be pointed out.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **1-2** and **4-11** are again rejected under 35 U.S.C. 103(a) as being unpatentable over Cottle, U.S. 6,263,396.

Considering claim 1, Cottle et al disclose SDRAM 312, 32-bit DATA RAM 240, TC bus 310, MPEG Decoder 250, OSD processor 270 comprising a mixer, and microprocessor CP 280. The SDRAM 312 stores video/audio data as well as OSD data. Cottle discloses that "...it is also with in the scope of the present invention to put the VBV buffer in optional memory on the extension buss 300 and thereby free up the SDRAM memory by the amount of the VBV buffer. This means that the SDRAM is allocated in a different manner than that of Table 7; that is the OSD memory size may be expanded or any of the other blocks expanded. Col. 18, lines 34-40. As noted in Table 7, the SDRAM 312 is used to store system level tables, video and audio bit streams, reconstructed video images, OSD data, and video decoding codes, tables, and FIFOs. The internal Data RAM 240 stores temporary buffers, OSD window attributes, keys for conditional access, and other tables and buffers for firmware. Col.18, lines 53-60. Furthermore, and most importantly, Cottle teaches that "...The protection block implements three levels of protection for the memory space of the ARM CPU 220. That is, firmware is allowed access to any memory, while the OS is allowed access to most memory; the application software (user mode) is only allowed access to restricted portions of the DRAM 312 and SRAM 240, but is allowed access to all other external memory." (col. 19, line 28-32)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to readily realize the teaching of Cottle and implement the method of Cottle by using the software to access any memory in the system as necessary and move data from one memory to another as desired in order to free up some memory or otherwise make the system more efficient by freeing up memory and loading data into another one.

Considering claim 2, the claimed processing unit, the first memory not being directly accessible by the processing unit.

As to this negative limitation, Cottle et al. discloses that any memory is accessible through the software run in the processing unit; it would be an advantage to have the processor having direct access to any device in the system. Cottle do not specifically disclose the system processor not accessing any of the memory devices. However, if such is desired it would be an obvious matter of design choice to modify the software or the processing algorithm by altering it so that the processor would not directly access a specific one of the memory devices, since applicant has not disclosed that having such a capability solves any stated problem.

Considering claim 4, wherein the first memory is a random access memory used for video decompression, is met by RAM 240. (note also that compression and decompression are, unlike the instant application, extensively discussed in the reference of Cottle et al.)

Considering claim 5, a video apparatus according to claim 1, wherein the digital decoder is connected to a digital front-end, is met by MPEG Decoder 250, Fig. 1B or 16A (see also Fig.1, 200 part of 100)

Considering claim 6, see rejection of claim 1;

Considering claim 7, see rejection of claim 1;

Considering claim 8, a process according to claim 7, with the further steps of: issuing a request for the OSD circuit to use data in the first memory, is inherent because the CPU controls the system and may request/command to do so. (see Request Fig.16C)

As to claim 9, see rejection of claim 1;

Considering claim 10, is met by DMA-transfer capability of Fig. 16A and the disclosure that the data transfer from TPP 210 to SDRAM 312 is done via DMA set up by the traffic controller (TC) 310. (see Table 8, for example)

Considering claim 11, see rejection of claim 1.

Response to Arguments

5. Applicant's arguments filed 9/19/05 have been fully considered but they are not persuasive. Applicant argues that Cottle et al. neither disclose nor suggest the first memory is adapted "to transfer said on-screen display data back to the second memory in response to a request for display of data stored in the first memory"... Applicant also repeated their argument that Cottle neither disclose nor suggest the type of OSD data and whether any transfer of the OSD data is to occur from memory to memory; that there is not indication nor any need that upon request for display data, data from any external memory would be transferred back to the SDRAM.

The examiner would like to point out that, first of all, Cottle et al. teaches two physical Dynamic Memory allocation (DMA) channels as well as several memory devices. The applicant's invention proposes a video apparatus comprising means for realizing a DMA transfer between the first memory and the second memory. (see page 1 of Applicant's specification) Thus, Cottle's disclosure is in line with the claimed invention. In order to utilize the memory effectively, Cottle discloses a traffic controller module 310 which "manages interrupt requests and authorizes and manages DMA transfers. It provides memory access protection and manages the data flow between processors and memories..." (col. 17, lines 43-51) The examiner submits that Cottle discloses, "The OSD data may come from the user data in the bit stream or may be generated by an application executed on the ARM 220. Regardless of the source, the OSD data will be stored in the SDRAM 312 and managed by the ARM 220. However, there may be limited space in the SDRAM 312 for OSD. Applications that require large

Art Unit: 2614

quantities of OSD data preferably store them in an external memory attached to the extension bus 300. Based on a request from a user application, the ARM 220 will turn the OSD function on and specify how and where the OSD will be mixed and displayed along with the normal video sequence. The OSD data can be represented in one of the following forms: bitmap, graphics 4:4:4 component, CCIR 601 4:2:2 component, or just background color. A special dedicated bitBLT hardware 272 expedites memory block moves between different windows. Col. 10, lines 15-30.

Further, Cottle discloses, "...it is also within the scope of the present invention to put the VBV buffer in optional memory on the extension bus 300 and thereby free up the SDRAM memory by the amount of the VBV buffer. This means that the SDRAM is allocated in a different manner than that of Table 7; that is the OSD memory size may be expanded or any of the other blocks expanded. Col. 18, lines 34-40. As noted in Table 7, the SDRAM 312 is used to store system level tables, video and audio bit streams, reconstructed video images, OSD data, and video decoding codes, tables, and FIFOs. The internal Data RAM 240 stores temporary buffers, OSD window attributes, keys for conditional access, and other tables and buffers for firmware. Column 18, 53-60. Cottle also teaches, "...The protection block implements three levels of protection for the memory space of the ARM CPU 220. That is, firmware is allowed access to any memory, while the OS is allowed access to most memory; the application software (user mode) is only allowed access to restricted portions of the DRAM 312 and SRAM 240, but is allowed access to all other external memory." Col. 19, lines 28-32 This clearly would be obvious to those with ordinary skill in the art that Cottle, by using the software,

accesses any memory in the system as necessary and moves any data, including OSD data, from one memory to the other as desired thus freeing up some memory space so that the DMA making the system much more efficient.

Conclusion

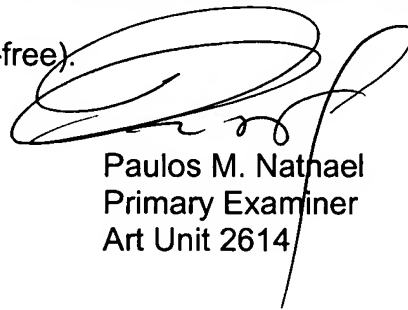
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 10:00am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571)272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paulos M. Nathael
Primary Examiner
Art Unit 2614

Pmn
December 2, 2005